Water Solution for California

As Senior Industrial Designer for Hewlett Packard I always began a new project by analizing the existing products and how my new Design would solve all of their short comings.

Approaching the California water problem with this same type of analization quickly brought out these problems with the existing system and the proposed Twin Tunnels.

- 1) The Delta is in need of more water in order to stage a comeback.
- 2) The Delta fish are being decimated by the pumps and a fish killer intake design.
- 3) The Twin Tunnel Design is a disaster for the Delta and does not create even one drop of water.
- 4) The existing system does not have enough water for now and far too little for the near future.

The Solutions:

- 1) More fresh water needs to be put into the Delta.
- This can be accomplished by increasing the flow of the water coming from the Sacramento River into the upper Delta at the Locke, Walnut Grove area. Increasing the width of the Mokelumne South Fork and getting more water to Terminous where Little Potatoe Slough width would be increased bringing fresh Sacramento water much further South East into the Delta. The natural flow to the S.F. Bay will bring fresher water to all of the Delta. Adjustable "Flow Restrictors" that never completely block any of the waterways, but do direct the fresh water South and East will be needed. This will save the Delta.
- 2) Ever wonder why the fish population is being decimated, wonder no more: There are no fish filters at the pumps supplying the California Aqueduct. These pumps, when running, kill Millions of fish every year, and those that survive passing through the pumps are sent South never to return. The Engineer of the Intake to the Clifton Court Forebay must have hated fish, as this Engineer designed a fish trap that effectively prevents any fish entering this extremely small, very high flow, intake no way to get back to the Delta if the pumps are running. The only exit for the fish is to follow the man made incoming tide to the Pumps. The solution is to install fish filters to prevent the fish from entering the Forebay and repopulating the Delta. The filters are already designed (for the Twin Tunnels).
- 3) 4) California needs more water and the Twin Tunnels create none, zero, nada, not an once, for an under estimated \$15.5 billion. Fact #2 about the Twin Tunnels is that during this, now 5 year, drought when the South needs the water most during growing season, that no water would have be passed through the tunnels because of salinity limits (set by Twin Tunnels Project) at existing check points. \$15.5 Billion and no water for 5 years, what a great project. Look down the road and see how much water is needed as the population continues to increase and use more water. There will also be the need for more farming to supply food for this population increase. The good news is the the

Golden State need not worry about water as we have the Pacific Ocean and Desalinization to provide what conservation, reclamation and restrictions cannot. The biggest negative about Desalinization is the amout of energy required to run all of the plants, and this is where my "Power Solution, Evaporation Prevention" concept comes in.

With approximately 700 miles of Aqueduct in California, the State estimates a water loss of 15% to evaporation. This 15% represents Billions of gallons of water lost. My solution is to cover the Aqueduct, saving the water but also creating an abundance of power because my concept is to cover the Aqueduct with Solar Panels to run all of the new Desalinization Plants.

The taxpayer cost of the Solar Panels will be minimal as the panels will be sold to businesses, home owners and renters that use electricity and want to get their electricity bill reduced as though they had the panels on their roof. The best part is that the owners take the panel credit with them if they move, or they can sell their panel credits if they want. My Engineering friends from Lawrence Livermore Labs estimate that the panels will create 50% more energy than California now uses.

For \$15 Billion California can buy 15 huge Desalinization plants like the one in San Diego. Placing many of them inland in an area that is below Sea Level so that the sea water will be siphoned with no pumping cost.

As the Desalinization Plants come on line, the amout of water sent South by the pumps will be reduced, contributing further to a rebounding Delta. The existing infrastructure of the Aqueduct will continue to be used as the new Desalinizaton Plants will now be feeding the system.

Solution Conclusion:

- 1) Fresher water for the Delta.
- 2) Save the Fish with filters
- 3) Dump the zero water producing Twin Tunnels
- 4) Prevent evaporation, create Solar Energy, and Desalinization plants.

We need to create more water for the population of the future

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